NIKITIN, G.I. (Iuzhno-Sakhalinsk)

Goumi. Priroda 45 no.4:117 Ap '56. (MLRA 9:7)
(Iuzhno-Sakhalinski--Goumi)

NIKITIN, G.I.

Plan of the school experiment plot. Biol. v shkole no.4:91-92
Jl-Ag '59. (MIRA 12:11)

1. Oblastnaya stantsiya yunykh naturalistov, g. Yuzhno-Sakhalinsk.
(School gardens)

NIKITIN, G. M.

"The Development of Oriented and Conditioned Motor Responses and Their Relation to Ontogenesis." Cand Med Sci, Acad Med Sci USSR, 28 Dec 54. (VM,14 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

NIKITIN, G

USSR/Electricity - Electrical instruments

Card 1/1 Pub. 89 - 27/30

Authors : Morozov, Yu., and Nikitin, G.

Title : Universal autotransformer and connecting electrolytic condensers in series

Periodical : Radio 3, page 58, Mar 1955

Abstract : A schematic drawing is presented of a step-up and step-down autotransformer suitable for use in soldering. The transformer covers a wide range of voltages. A method is described for attaining desired voltage by connecting transformers in series. Drawing.

Institution : .....

Submitted : .....

SOV 107-58-4-48/

AUTHOR: Nikitin, G., Khanin, A.

TITLE: A Radar Speed Meter (Radiolokatsionnyy izmeritel' skorosti)

PERIODICAL: Radio, 1958, Nr 4, pp 54-56 (USSR)

ABSTRACT: A radar speed meter working on the Doppler effect principle has been built by a group of engineers from the Leningrad "Giprotransignalsvyaz'" Institute and named the RIS-1. The apparatus consists of a klystron generator which feeds a row of half-wave vibrators via a waveguide. The emission from the vibrators is directed by the curved reflector sheet, reflected from the oncoming vehicle, picked up by the same sheet and fed back through the waveguide into the detector section. The difference in frequency between the transmitted and reflected waves represents the speed of the vehicle. The detected signal is amplified, shaped, differentiated, integrated and passed through to a power amplifier output stage from whence it goes to work a relay and extension indicator. The relay can be set to trip at any speed of the oncoming vehicle and operate a photo-unit. The unit photographs the offending vehicle sufficiently clearly to register its number-plate and at the same time records the time and the speed from a calibrated dial. The apparatus is simp-

Card 1/2

Excitment

A Radar Speed Meter SOV 107 58 4 48

to operate and can be left to function automatically. Details of the AF unit and rectification and power unit are given.
There is 1 block diagram, 1 circuit diagram and 2 drawings

1. Radar equipment--Applications 2. Doppler radar systems--Applications 3. Traffic--Speed measurement

Card 2/2

NIKITIN, G M

PHASE I BOOK EXPLOITATION SOV/5540

Khara, Valentin Vasil'yevich, and Georgiy Mikhaylovich Nikitin

Uchebno-demonstratsionnyye posobiya po radiotekhnike (Teaching and Training Aids in Radio Engineering) Moscow, Voyenizdat M-va obor. SSSR, 1960. 225 p. No. of copies printed not given.

Ed.: P. I. Gnutikov; Tech. Ed.: T. F. Myasnikova

PURPOSE : This book is intended for officers engaged in training the personnel of radio subunits. It may also be useful to teachers in schools and tekhnikums and to the general reader.

COVERAGE: The book describes a set of teaching and training devices, its components, and various attachments. Diagrams and electric data of the devices and components used are given and the experiments and demonstrations of physical processes occurring in various radio systems which can be presented by means of the aids are listed. No personalities are mentioned. There are 8 references, all Soviet.

Car~~d 1/8~~

KHARA, Valentin Vasil'yevich; NIKITIN, Georgiy Mikhaylovich; GNUTIKOV, P.I., red.; MYASHNIKOVA, T.F., tekhn.red.

[Radio engineering demonstrational devices and study aids] Uchebno-demonstratsionnye posobiia po radiotekhnike. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 251 p. (MIRA 13:12)
(Radio--Study and teaching)

SAK, Anatoliy Mikhaylovich; NIKITIN, G.M., kand. tekhn. nauk,
red.

[Safety measures during ship lifting operations] Tekhnika bezopasnosti pri sudopod"emnykh rabotakh. Leningrad, Izd-vo "Rechnoi transport," 1961. 28 p. (MIRA 17:10)

VASIL'KEVICH, inzh.; NIKITIN, G.; SUTORSHIN, V.

Transistor condenser in the IF channel. Radio no.1:37-39 Ja '62.
(MIRA 15:1)
(Condensers (Electricity)) (Transistors)
(Radio--Receivers and reception)

PISANNIKOV, Guriy Pavlovich; VASIL'YEVA, A.V., retsenzent;
NIKITIN, G.M., kand. tekhn. nauk, red.

[Control of electric propulsion drives and their maintenance] Upravlenie rulevymi elektroprivodami i ukhod za nimi. Moskva, Izd-vo "Rechnoi transport," 1963. 109 p.
(MIRA 17:

OBRYADCHIKOV, German Yakovlevich; SOLOV'YEV, N.N., retsenzent;
NIKITIN, G.M., kand. tekhn. nauk, red.

[Adjustment and regulation of marine voltage regulators]
Nastroika i regulirovka sudovykh reguliatorov napriazheniia. Moskva, Rechnoi transport, 1963. 66 p.
(MIRA 18:3)

ISAKOV, Nikolay Mikhavlovich; GUSEV, M.N., kand. tekhn. nauk, retsenzent; SENNIKOVSKIY, N.M., dots., retsenzent; NIKITIN, G.M., red.; KAN, P.M., red.

[Technology of shipbuilding and ship repairs] Tekhnologiia sudostroeniia i sudoremonta. Moskva, Transport, 1964. 320 p. (MIRA 17:10)

GUSMAN, M.T.; NIKITIN, G.M.; SOBKINA, I.V.

Some results in operations with multisectional turbodrills. Trudy VNIIBT no.14:140-150 '65. (MIRA 18:5)

ACC NR: AP7002603 (A, N) SOURCE CODE: UR/0413/66/000/023/0110/0110

INVENTORS: Agayev, A. I.; Kol'chenko, A. V.; Malkin, B. D.; Kuznetsova, I. I.; Nikitin, G. M.; Gusman, M. T.

ORG: none

TITLE: A stepped rolling axle support. Class 47, No. 189254

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 110

TOPIC TAGS: antifriction bearing, ball bearing, bearing race

ABSTRACT: This Author Certificate presents a stepped rolling axle support containing thrust roller bearings, spacing collars, and an annular elastic element (see Fig. 1). To eliminate loose axle holes and to increase the efficiency under dynamic loads, the ball bearings of the support are placed in two rows, with the balls running between the outside flanges and the internal flange. The annular elastic element is mounted on each side of each ball bearing at a small distance from a spacing ring. A split bushing is placed between the inner flanges of the corresponding ball bearings.

Card 1/2 UDC: 621.822.3

ACC NR: AP7002603

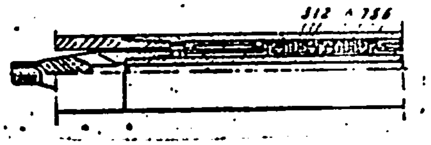

Fig. 1. 1 - balls; 2 - outside flange; 3 - inner flange; 4 - annular elastic element; 5 - space; 6 - spacing ring; 7 - split bushing

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 05Mar66

Card 2/2

NIKITIN, Gennadiy Mikhaylovich; GUSEV, M.N., kand.tekhn.nauk, dots.; retsenzent;
VINOGRADOV, I.M., inzh., retsenzent; VOLKOV, Yu.N., starshiy nauchnyy
sotrudnik, retsenzent; SIMSON, I.I., retsenzent; KRUKOVSKIY, V.A.,
red.; VOLCHOK, K.M., tekhn.red.

[Safety engineering and fire prevention in transportation by water]
Tekhnika bezopasnosti i protivopozharnaia tekhnika na vodnom
transporte. Leningrad, Izd-vo "Rechnoi transport," Leningr. otd.-
nie, 1958. 416 p. (MIRA 11:5)
(Ships--Fires and fire prevention)
(Safety engineering)

NIKITIN, Gennadiy Mikhaylovich; **SVIRIDENKO**, P.A., prof., doktor tekhn. nauk, retsenzent; **MURATOV**, I.I., dotsent, kand.tekhn.nauk, retsenzent; **AL'TSHULLER**, T.S., red.; **VOLCHOK**, K.M., tekhn.red.

[Electric drives for ship machinery] Sudovye elektroprivody. Leningrad, Izd-vo "Rechnoi transport," Leningr.otd-nie, 1960. 395 p. (MIRA 13:7)

(Ships--Equipment and supplies)
(Electricity on ships)

GUSEV. Mikhail Nikolayevich, prepodavatel'; ZILIST, Petr Sigizmundovich, prepodavatel'; LEV, Yevgeniy Semenovich, prepodavatel'; LOPYREV, Nikolay Kirillovich, prepodavatel'; **MARDENSKIY**, Vladimir Prokop'yevich, prepodavatel'; **NEMKOV**, Petr Petrovich, prepodavatel'; **NIKITIN**, Gennadiy Mikhaylovich, prepodavatel'; SHELUCHENKO, V.M., dotsent, kand.tekhn.nauk, retsenzent; BELOV, N.M., inzh., retsenzent; GOLOVANOV, N.V., red.; VOLCHOK, K.M., tekhn.red.

[Technology of marine engineering and ship repairs] Tekhnologiia sudovogo mashinostroeniia i sudoremonta. Pod obshchei red. M.N. Guseva. Leningrad, Izd-vo "Rechnoi transport," Leningr.otd-nie. Pt.2. [Technology of ship repairs] Tekhnologiia sudoremonta. 1960. 470 p. (MIRA 13:4)

1. Kafedra tekhnologii sudostroyeniya i sudoremonta Leningradskogo instituta vodnogo transporta (for Gusev, Zilist, Lev, Lopyrev, Mardenskiy, Nemkov, Nikitin).

(Ships--Maintenance and repair)

NIKITIN, Gennadiy Mikhaylovich; ALEKSEYEV, I.A., retsenzent; USTINOV, V.I., retsenzent; CHERNYY, N.Ye., red.; VOLCHOK, K.M., tekhn. red.

[Fundamentals of safety and fire prevention techniques]Osnovy tekhniki bezopasnosti i protivopozharnoi tekhniki. Leningrad, Izd-vo "Rechnoi transport," 1961. 423 p. (MIRA 15:10)

(Industrial hygiene) (Fire prevention)

VISHNEVSKIY, Stanislav Yevgen'yevich; GRISHCHENKO, F.I., retsenzent;
NIKITIN, G.M., kand. tekhn. nauk, red.

[Methods of measuring the resistance of insulation on ships of a river fleet] Metody izmereniia soprotivleniia izoliatsii na sudakh rechnogo flota. Moskva, Rechnoi transport, 1963. 44 p. (MIRA 18:3)

NIKITIN, G. M.

Engr., Central Sci. Res. Inst. Ministry Heavy Machine Building, -c1948-.

"Humidifying the cupola furnace hot air blast," Stal', No. 1, 1948

NIKITIN, G. M.

PA 195T54

USSR/Metals - Bronze **Mar 51**

"Methods for Improving the Quality of Bronze Castings," G. M. Nikitin, Engr, Plant imeni Marti, Leningrad

"Litey Proizvod" No 3, pp 28, 29

Outlines general application of fluxes for protecting molten metal against oxidation and describes the processes of refining by slagging several copper alloys, such as aluminum-manganese and tin bronzes and silicon brass.

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195T54

NIKITIN, G. M.

USSR/Metals - Bronze, Manufacture Nov 51

"Production Technology of Bronze Br. SuN 7-2," G. M. Nikitin, Engr, Plant imeni Marti

"Litey Proizvod" No 11, p 29

Discusses structure and manuf of Sb-Ni bronze (7-8% Sb; 1.5-2.5% Ni). Gives phys and mech properties of dry sand cast alloy and compares with those of Sn-P bronze which in many cases may be replaced by bronze under investigation.

198T85

NIKITIN, Georgiy Mikhaylovich; PIKUNOV, M.V., redaktor; EL'KIND, L.M., redaktor izdatel'stva; PERLOV, A.P., tekhnicheskiy redaktor

[Fluxes in the production of nonferrous metal alloys] Fliusy v proizvodstve splavov tsvetnykh metallov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 31 p. (MIRA 9:8)

(Nonferrous metals--Metallurgy)

18(7) SOV/128-59-7-4/[illegible]

AUTHOR: Nikitin, G.V., Engineer

TITLE: Estimation of Cupola Slag Composition

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 7, pp 11 - 13 (USSR)

ABSTRACT: Cupola slag should have corresponding toughness and acid. Acid is especially important for the formation of plumbago in steel. Those two necessary properties of cupola slag can be determined in an exact manner by means of instruments and fitting methods. The toughness is closely related to the chemical composition and to the temperature. In this respect the literature contains reference material. The test these data the author has made experiments the results of which are published in several tables. Similar tests can be made with slag of Siemens open hearth furnaces. There are 7 tables, 2 diagrams and 10 Soviet references

Card 1/1

GORELIK B.M., GA[illegible], T.A.; [illegible], G.N.; [illegible]

New heat and oil resistant rubber for the [illegible] drills. Neft. khoz. [illegible] no.[illegible] D '[illegible] (MIRA [illegible])

SHAPILOV, Valeriy Mikhaylovich; NIKITIN, G.M., doktor tekhn. nauk, red.; SHLENNIKOVA, Z.V., red.

[Safety measures in operating the electric equipment of ships] Tekhnika bezopasnosti pri ekspluatatsii elektrooborudovaniia sudov. Moskva, Transport, 1965. 50 p.
(MIRA 18:6)

DUBOVOY, Anatoliy Aleksandrovich; POPOV, Aleksandr Vasil'yevich; NIKITIN, G.M., doktor tekhn. nauk, red.; KAN, P.M., red.

[Electric propelling machinery; servicing and maintenance] Elektrogrebnye ustanovki; obsluzhivanie i ukhod. Pod red. G.M.Nikitina. Moskva, Transport, 1965. 63 p. (MIRA 18:12)

GRUZINOV, V.K., akademik; MIKHAYLOV, V.V., akademik; FINDAK, I.I., kand.
tekhn.nauk; MIKHAYLOV, S.V.; RAKHIMOV, A.R.; NIKITIN, [illegible]

Utilization of the brown ores of the Lisakov deposit. Vest.
AN Kazakh. SSR 21 no.11:9-13 N '65.
(MIRA 18:12)

1. Akademiya nauk Kazakhskoy SSR (for Gruzinov, Mikhaylov, V.V.).

NIKITIN, Gennadiy Mikhaylovich; KHOKHLOV, G.P., retsenzent;
ROZHDESTVENSKIY, A.P., retsenzent; GRITSENKO, P.I.,
red.; KAN, P.M., red.

[Organizing the operation of the electric equipment of ships] Organizatsiia ekspluatatsii elektrooborudovaniia sudov. Moskva, Transport. 1965. 109 p. (MIRA 18:7)

NIKITIN, G.N.

Foreign experience using fertilizers. Nauka i zhizn' 23 no.5:
64 '56. (MLRA 9:8)

(China--Fertilizers and manures)
(United States--Fertilizers and manures)

AVIROM, S.M., kand. tekhn.nauk, nauchn. sotr.; [illegible], L.[illegible] kand. tekhn.nauk, nauchn. sotr.: GOMELIK, S.A., kand. tekhn. nauk, nauchn. sotr.; LEYTES, L.G., kand. tekhn. nauk, nauchn. sotr.; FILATOVA, Ye.I., nauchn. sotr.; [illegible], kand. tekhn. nauk, nauchn. sotr.; Prinyali uchastiye: ZOTOV, V.A., nauchn. sotr.; FILATOVA, M.[illegible], nauchn. sotr.: NIKITIN, G.N., nauchn. sotr.; [illegible], A.[illegible]; [illegible], F.Ya., red.

[Recovery and use of secondary wool in consumers' goods] Poluchenie i primenenie vtorichnoi shersti v izdeliiakh narodnogo potrebleniia. [By] S.M.Avirom i dr. Moskva, Izd-vo "Legkaia industriia," 1964. 260 p. (MIRA 17:5)

1. Nachal'nik pryadil'nogo tsekha Pushkinskoy fabriki No..3 (for Romashov).

FRIDLYAND, Aleksandr Adol'fovich; NIKITIN, Georgiy Nikolayevich;
TIMOKHIN, N.A., retsenzent; RAZUMOVSKAYA, Ye.V., red.

[Additional production from the wastes of leather and fur manufacture] Dopolnitel'naia produktsiia iz otkhodov kozhevennogo i mekhovogo proizvodstva. Moskva, Legkaia industriia, 1965. 211 p. (MIRA 18:12)

NIKITIN, G. N.

AID P - 701

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 12/18

Author : Nikitin, G. N., Eng.

Title : Controlling the salt deposits on the steam turbine blades

Periodical : Energetik, 8, 22-23, Ag 1954

Abstract : The author describes the method of controlling the setting of silicates by means of steam pressure.

Institution : None

Submitted : No date

NIKITIN, G.N.

On "circular" maintenance schedules. Elek. i tepl. tiaga [illegible] 28-29 Mr '57. (MLRA [illegible])

1. Nachal'nik elektrovoznogo depo Nadezhdinsk-Sortirovochnaya. (Locomotives)

14(8) SOV/91-59-5-23/27

AUTHOR: Nikitin, G.N.

TITLE: On the Inspection of Automatic Safety Device of a Steam Turbine (O proverke avtomata bezopasnosti parovoy turbiny)

PERIODICAL: Energetik, 1959, Nr 5, pp 37-38 (USSR)

ABSTRACT: This is the reply to a question asked by A.I. Matveyeva, from Aleksandriya, Kirovogradskaya oblast', how the automatic safety devices for steam turbines should be checked after a long stay in the reserve? The reply is as follows: after a stay in the reserve up to 2 months, when the turbine is all right, the automatic safety device should be checked, when the turbine is started, by the oil testing device. After a stay in the reserve in excess of 2 months, it should be tested by the oil testing device and by increase of turbine's revolutions, which should be preceded by hand testing.

Card 1/1

MURAKHOVSKIY, B.A., mashinist-instruktor; NIKITIN, G.N.

Preparation of the N60 electric locomotive for service. Elek. i tepl. tiaga 4 no. 12:23-26 D '60. (MIRA 14:1)

1. Depo Krasnoyarsk (for Murakhovskiy). 2. Zamestitel' nachal'nika depo Krasnoyarsk (for Nikitin).
(Electric locomotives--Maintenance and repair)

SEMENOV, Gennadiy Alekseyevich, inzh.; YERSHOV, Yevgeniy Fedorovich, inzh.; KOZLOV, Vitaliy Ivanovich, mashinist; NIKITIN, Geniy Nikolayevich, inzh.; KRYLOV, S.S., inzh., retsenzent; YAKOVLEV, D.V., inzh., red.; OSIPOV, S.I., inzh., red.; VOROTNIKOVA, L.F., tekhn. red.

[Detecting and eliminating defects in the electric circuits of a.c. electric locomotives] Obnaruzhenie i ustranenie neispravnostei v elektricheskikh tsepiakh elektrovozov peremennogo toka [By] G.A.Semenov i dr. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 127 p. (MIRA 15:3)

(Electric locomotives--Maintenance and repair)

MARCHENKO, Yuriy Valentinovich; NIKITIN, Geniy Nikolayevich;
BYSTRITSKIY, Kh.Ya., inzh., retsenzent; YAKOVLEV, D.V., inzh.,
red.; RAKOV, V.A., inzh., red.; USENKO, L.A., tekhn. red.

[Maintenance and operation of electric a.c. locomotives] Obsluzhivanie i ekspluatatsiia elektrovozov peremennogo toka. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 234 p. (MIRA 15:2)
(Electric locomotives)

MURAKHOVSKIY, B.A., mashinist-instruktor; NIKITIN, G.N.

Operation of rectifying units. Elek. i tepl. tiaga no.1:38-41
Ja '61. (MIRA 14:3)

1. Zamestitel' nachal'nika depo Krasnoyarsk (for Nikitin).
(Electric locomotives) (Electric current rectifiers)

NIKITIN, H.O. [Nikitin, H.O.]; KOTMISTROV, M.M. [Kotmistrov, M.M.]

Phylogeny of anaerobic cellulose bacteri Report no.2:Fermentation of corn. mash by thermophilic anaerobic cellulose bacteria. Visnyk. Kyiv. un. no.2. Ser. biol. no.2:30-32'60 (MIRA 16:8)
(BACTERIA, CELLULOSE-DECOMPOSING) (FERMENTATION)

NIKITIN, G. P.

28(1);25(1) PHASE I BOOK EXPLOITATION SOV/2831

Mekhanizatsiya i avtomatizatsiya trudoyemkikh protsessov v liteynom proizvodstve (Mechanization and Automation of Labor-consuming Processes in Foundry Practice) Moscow, Mashgiz, 1959. 226 p. Errata slip inserted. 4,000 copies printed.

Reviewer: K. M. Skobnikov, Candidate of Technical Sciences; Ed. (Title page): G. I. Kobylyanskiy (Deceased); Ed. (Inside book): A. N. Sokolov, Candidate of Technical Sciences; Tech. Ed.: O. V. Speranskaya; Managing Ed. for Literature on the Technology of Machinery Manufacture (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and engineers engaged in the mechanization and automation of industrial processes. It may also be used by students of institutions of higher technical education.

COVERAGE: The book deals with recent achievements in the mechanization and automation of time-and labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented in this book is divided into six parts, dealing with the following subjects: molding materials, mold and coremaking, casting, shakeout of molds, finishing of castings, and special casting methods. Each part consists of a number of technical papers presented by several authors. The application of automation ranges from the preparation of molds and cores to the mechanization and streamlining of specialized casting methods, such as investment casting and the use of shell molds. There are numerous diagrams showing automatized and mechanized installations in foundries. Most of the material is based on experiments and work done at the "Krasnyy Aksay" Plant. Some of the methods described appear to be in the experimental stage at that plant. The technical papers published in this book were originally presented at a technical conference of the Soviet machine industry in October 1957. No personalities are mentioned.

Yegorov, D. P. Constructions of New Molding Machines 68

Figner, I. I. Installation for Modifying Cast Iron With Magnesium Under Pressure 113

Burlo, Ye. A. Redesign of Control Mechanisms for Electric-arc Furnaces 118

Volynskiy, V. N. Hydroblast Installation for Cleaning Castings 154

Zaslavskiy, M. Ya. Hydroblast Cleaning of Castings 162

Ginzburg, A. D. Overall Mechanization of Steel-casting Cleaning Shops 167

Dol'berg, Z. A. Mechanization and Automation of Investment Casting 176

Belousov, N.N. Recent Non-Soviet Achievements in the Automation and Mechanization of Die Casting 188

Lupyrev, I.I., K. F. Borovskiy, G. P. Nikitin, A. L. Zayats, and S. I. Pomichenko. Mechanization of the Production of Small High-precision Castings in Pressed Bakelite-base Shell Molds 202

Ginzburg, A. D. Semiautomatic Machine for Making Shell Molds 210

15-57-10-14330

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 158 (USSR)

AUTHOR: Nikitin, G. P.

TITLE: The Use of the Toltry Limestones of the Northeastern Part of the Volyno-Podol'ye Plateau for Building Material (K voprosu ob ispol'zovanii toltrovykh izvestnyakov severo-vostochnoy chasti Volyno-Podol'skogo plato v kachestve stroitel'nykh materialov)

PERIODICAL: Nauch. zap. L'vovsk. politekhn. in-ta, 1956, Nr 46, pp 135-144

ABSTRACT: The Satanov deposit of detrital reef limestones of middle Miocene age is in the Khmel'nitskaya Oblast' in the northern belt of Toltry limestones in the northwestern part of the Volyno-Podol'ye Plateau. The limestones from this deposit are valuable for the production of structural lime and may be sawed for building blocks. The chemical composition of the reef limestone follows:

Card 1/2

NIKITIN, G.P.

Significance of the condensation of atmospheric water vapor for soil moisture conditions in central Yakutia. Izv. vost. fil. AN SSSR no.12: 106-112 '57. (MIRA 11:1)

1. Yakutskiy filial AN SSSR.
(Yakutia--Soil moisture) (Humidity)

NIKITIN, G.P.

Effect of the thermal gradient on the moisture conditions of soils.
Nauch. soob. IAFAN SSSR no.5:13-16 '61. (MIRA 14:12)
(Yakutia--Soil moisture) (Soil temperature)

NIKITIN, G.P.

Fall furrowing of soils in central Yakutia. Nauch. soob. IAFAN
SSSR no.5:17-25 '61. (MIRA 14:12)
(Yakutia--Tillage)

S/145/61/000/008/004/005
D262/D304

AUTHORS: Nikitin, G. S., and Sinel'nikov, Yu. I., Assistents

TITLE: Determining the mean specific pressure at the rolling of high-alloy steels and heat-resisting alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniy, no. 8, 1961, 121-134

TEXT: In this study the results of the experimental method to determine the mean unit pressure at the rolling of high-alloy steels and special alloys in the form of the isothermal relation $P_m = f(\frac{l}{h_m})$ is submitted. (P_m - mean unit pressure l - length of the zone of deformation, $h_m = \frac{h_0 + h_1}{2}$ - mean thickness of strip in the zone of deformation). Experimental data for a number of steels and alloys was obtained by using heavy merchant mill "600", a three-high rolling mill "Lauta" 750/350/750 and also a laboratory mill

Card 1/3

S/145/61/000/005/004/005
D262/D304

Determining the mean specific ...

"160", and the graphs showing the values of P_m for ratios $\frac{l}{h_m}$ ranging from 0.2 to 2.5 at different temperatures were analyzed. The authors state that the results show that the relation $P_m = f(\frac{l}{h_m})$ obtained for one mill can be utilized to find, with certain approximation, the mean unit pressure for any mill provided that the temperature of rolling and the speed of deformation are the same for the given ratio $\frac{l}{h_m}$. To obtain more accurate values for P_m when $l \approx h_m$, $\varepsilon = 10 \div 13\%$, $B \gg h_m$, and coefficient of friction small, the method of "basic unit pressure" was applied. The formula $P_m = \delta' n_\sigma \cdot \sigma_\Phi$ elaborated by A. I. Tselikov (Ref. 10: Prokatnyye stany (Rolling Mills), Metallurgizdat, 1946) is transformed into $P_m = n_\sigma \cdot n_v \cdot \eta \cdot P_o$, where P_o is the basic unit pressure obtained from

Card 2/3

Determining the mean specific ...

S/145/61/000/008/004/005
D262/D304

the experimental data by G. Valkvist (Ref. 15: Issledovaniye energosilovykh parametrov pri goryachey prokatke metalla (Investigation of Energy Parameters during Hot Rolling of Metals), Metallurgizdat, 1957). The results by this method compared with those obtained experimentally show that the differences do not exceed 10%. The authors conclude that for approximate calculations the relation $P_m = f(\frac{1}{h_m})$ may be used, and that more accurate results can be obtained by applying the "basic unit pressure" method. There are 8 tables, 5 figures and 17 Soviet-bloc references.

ASSOCIATION: MVTU im. N. E. Baumana (MVTU im N. E. Bauman

SUBMITTED: April 20, 1961

Card 3/3

S/145/61/000/010/006/008
D221/D304

AUTHORS: Zaroshchinskiy, M. L., Doctor of Technical Sciences, Nikitin, G. S., Professor, Assistent, and Sinel'nikov, Yu. I., Assistent

TITLE: Determination of energy-force parameters in rolling special alloy sheets

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyenie, no. 10, 1961, 168-179

TEXT: The following parameters were determined experimentally: Vertical and horizontal components of metal pressure on rollers; the torque of the main shaft; rolling temperature and the conditions of forming. Load cells were used which were calibrated by hydraulic jacks. The pusles of transducers were amplified by an ЭТ-4-53(ET-4-53) amplifier and recorded by МПО-2 (MPO-2) oscillograph. The temperature was measured by the photo-electric pyrometer ФЭП (FEP) and recorded. The "spring" of the mill was plotted

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Determination of energy-force ... S/145/61/000/010/006/008
D221/D304

in order to find the precise forming of the strip. A list is given of alloys which were rolled. The experimental isothermic relationships $P_{av} = f(\frac{1}{H_{av}})$ are illustrated. The minima of these curves for the majority of alloys are identical and correspond to $\frac{1}{H_{av}} = 0.7 - 0.8$. The curves are plotted for 1000 - 1200°C, and the value for P_{av} varies for lower temperatures. The tabulated results indicate that maxima torque values exceed the permitted magnitude of moment for the safety pins of the gear clutch which actually caused stoppages. Analysis of oscillograms revealed the cyclic character of load of the main shaft which is asymmetrical and has a decay at the end of the pass. It was noticed that peak torque varies with the plasticity of the rolled material. The effect of the ratio of rollers on the static and dynamic processes of rolling was also investigated. Analysis of results revealed that lower ratio results in reduced steady torques and also in peak values of the

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latter. The conditions of strip pinching were improved, and the bending of the strip was reduced. The forces of friction in the bearings are neglected, and it is assumed that a simple process of rolling takes place. After a mathematical manipulation, the author deduces the equation for the torque of rolling as a function of angles of pinch. The rolling in a three-high Lauth mill produces a displacement of the central roll, Δ_1, and an opposite shift of the upper roll, Δ_2 which are due to clearances. The geometrical sizes of the deformation center in this case remain the same as during rolling without displacement. The mathematical analysis results in another equation for the general torque of rolling. This can be simplified by making some assumptions, when

$$M_{gen} = P\left[\sqrt{R_{av}\Delta h}\; 0,5\left(\frac{D}{d}+1\right)+\Delta\left(\frac{D}{d}+1\right)\right] \qquad (23)$$

Determination of energy-force ...

S/145/61/000/010/006/008
D221/D306

ASSOCIATION: MVTU im. N. E. Baumana (MVTU im. N. E. Bauman)

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Card 5/5

S/902/62/000/000/002/015
E193/E383

AUTHORS: Zaroshchinskiy, M.L. and Nikitin, G.S.

TITLE: Resistance to deformation during rolling of alloys with a high strength at elevated temperatures

SOURCE: Novyye protsessy obrabotki metallov davleniyem; doklady Soveshch. po novym prots. obrab. met. davleniyem v mashinostr., 1960. Ed. by V. D. Golovlev. Moscow, Izd-vo AN SSSR, 1962. 44 - 48

TEXT: Alloys with high strength at elevated temperatures are at present rolled on equipment used normally for rolling constructional steels. As a result, the equipment is often overloaded and damaged. The optimum rolling conditions cannot be determined without knowing the strength of the metal at the rolling temperature - hence the present investigation conducted on the following alloys: ЭР (ER)-18, ER-9, ЭИ (EI)-661, EI-867, EI-929, EI-827, EI-826, 30ХГСА (30KhGSA), Э70С2ХА (E70S2KhA), У8А (U8A), 65Г (65G), EI-435, ЭСВХ20Н10Г6(678) (ESVKh20N10G6(678)), Х20Н80 (Kh20N80), ЭИ-211 (ЭХ20Н14С2) (EI-211 (EKh20N14S2)) and EI-602.

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S/902/62/000/000/002/015
Resistance to E193/E383

Measurements of the roll force P were conducted on ingots weighing from 90 - 450 kg with cross-sections ranging from 150 x 150 mm to 190 x 250 mm. These were rolled hot (1 130 - 1 050 °C) on multi-groove rolls, the reduction from the initial dimensions to the final size (usually 90 x 90 mm) being attained in 7 - 19 passes. The roll pressure was measured in each pass, the measurements being repeated at least 10 times for each alloy. The experimental values of P were used to assess the resistance of the alloys studied to deformation by plotting the average roll pressure P_{cp} (kg/mm^2) as a function of the ℓ/h_{cp} ratio, where ℓ is the length of the deformation region in a given pass (calculated or, in some cases, determined experimentally) and h_{cp} is the arithmetical mean of the thickness of the specimen before entering and after leaving the pass. The graphs are reproduced in Figs. 3 and 4. The results shown in Fig. 3 relate to alloys indicated by each curve. The curves in Fig. 4 relate to the following alloys: 1 - EI-435 (rolling temperature t = 1150 - 1100 °C); 2 - ЭХ20Н80 (EKh20N80) (t = 1100 - 1050 °C); 3 - EI-211 (t = 1080 - 1050 °C); 4 - ESVKh20N10G6 (t = 1050 - 1030 °C); 5 - 30KhGSA (t = 1050-1030 °C);
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6 - E70S2KhA (t = 1050 - 1030 °C); 7 - 65G (t = 1050 - 1030 °C); 8 - U8A (t = 1060 - 1050 °C). It will be seen that the minima of curves reproduced in Figs. 3 and 4 are, respectively, at ℓ/h_{cp} of approximately 0.5 and 0.6-0.7; this difference is associated with different friction coefficients of the two groups of alloys. The position of the curve for each alloy in relation to the P_{cp} axis is determined by its resistance to uniaxial deformation at a given temperature, deformation rate and the reduction attained. The results obtained indicate that the optimum conditions for rolling the alloys studied correspond to the values of ℓ/h_{cp} in the 0.4 - 0.7 interval. The $P_{cp} = f\ (\ell/h_{cp})$ curves obtained in the course of the present study can be used to calculate the roll pressure in rolling on rolls other than those used by the present authors, provided that there is no, or very little, lateral spread. There are 4 figures and 1 table.

L 16130-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4 AFWL/ASD(m)-3 MJW/
ACCESSION NR: AR4048224 JD/HM S/0137/64/000/009/D003/D003

SOURCE: Ref. zh. Metallurgiya, Abs. 9D24

B

AUTHOR: **Nikitin, G. S.**

TITLE: Calculation of the pressure of a metal on rollers in the rolling of heat resistant alloys with the use of basic specific pressures

CITED SOURCE: Tr. Vses. n.-i. i proyektno-konstrukt. in-ta metallurg. mashinostr., sb. 12, 1964, 535-544

TOPIC TAGS: roller, rolling, 14 heat resistant alloy, 16 pressure, steel, alloy

TRANSLATION: A method for determining the basic specific pressure has been examined in detail. The effect of temperature, degree, and speed of deformation on resistance to deformation in the rolling of heat resistant alloys EI602, EI435, [illegible], EI437, EI867, EI661, and E65G has been studied. 16 The results of the experiments are presented 18 in the paper in the form of an isothermal relationship, the

Cord 1/2

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ACCESSION NR: AR4048224

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nature of which is identical for all the alloys. The question of the relationship between the average specific pressure and the basic specific pressure and the speed of deformation has been examined. The calculation method described can be recommended for use in plant laboratories in the investigation of the deformation of new brands of steels and alloys, since it is characterized by simplicity and high reliability and since it makes it possible to determine quickly and accurately the data necessary for establishing rolling conditions.

SUB CODE: MM, AS ENCL: 00

Card 2/2

ACC NR: [illegible]

AUTHOR: [illegible] (Candidate of technical sciences); [illegible]'nikov, Ye. I. (Candidate of technical sciences); [illegible] (Candidate of technical sciences)

ORG: "Elektrostal'" Plant (Zavod "Elektrostal'"); [illegible]

TITLE: Work and deformation resistance in hot rolling [illegible]

SOURCE: Stal', no. 8, 1966, [illegible]

TOPIC TAGS: metal deformation, hot rolling, nickel alloy, [illegible]

ABSTRACT: The authors study five alloys: [illegible] -tic alloy, 3. [illegible] precision soft-magnetic alloy, [illegible] refractory alloy. The chemical compositions [illegible] given. Experimentally determined specific energy values in hot rolling for the five alloys are used to set up curves of their dependence on the degree of deformation. Specific energy values in the region of deformation were [illegible] on a production sheet rolling mill 650/450/650-[illegible] at speeds of [illegible] m/sec [illegible] various relative degrees of reduction at 1000 and 1150°C. A method of [illegible] compression deformation energy curves with respect to hot rolling is used to [illegible] relationships between actual deformation resistance and the degree of deformation for

Card 1/2 UDC: [illegible]

L 11263-67

ACC NR: AP6027291

the five alloys. These relationships show strengthening in the deformation de-termined by temperature and degree of deformation for each alloy. Orig. art. has: 4 figures, 2 tables, 8 formulas.

SUB CODE: 11/, 13/ SUBM DATE: None/ ORIG REF: 002

Card 2/2

ZHUCHIN, V.N., kand. tekhn. nauk; [illegible]
NIKITIN, G.S., kand. tekhn. nauk

Experimental investigation of the elastic compression of rolls in cold rolling. Izv. vys. ucheb. zav.; mashinostr. [illegible] no.5:66-70 '6[illegible].

ACC NR: AP7005236 (A) SOURCE CODE: UR/0145/66/000/009/0148/0152

AUTHOR: Zhuchin, V. N. (Candidate of technical sciences); Nikitin, G. S. (Candidate of technical sciences); Sinel'nikov, Yu. I. (Candidate of technical sciences); Lutkovskiy, S. I. (Engineer)

ORG: None

TITLE: Drawing alloys with low deformability at moderate temperatures

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1966, 148-152

TOPIC TAGS: metal drawing, wire, alloy steel, metal recrystallization

ABSTRACT: Experiments are conducted on drawing R-18 and EI-474 alloys with preheating. An industrial single-draft unit of the drum type was used for producing wire from 8 mm to 3 mm in diameter at drawing rates of 44.2, 57.7 and 87.5 m/min. The wire was heated in a lead bath and passed through draw plates made from VK-6 alloy. The drawing stress $K=P/S_k$ was taken as the basic characteristic of the process where P is the drawing force in kg, and S_k is the cross sectional area of the wire after drawing in mm^2. This criterion was studied as a function of such factors as partial and overall degree of deformation, temperature of the metal, rate of drawing, the working angle of the draw plate, the initial diameter of the wire and lubrication. The experimental results

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UDC: 621.771.3

ACC NR: AP7005236

show that partial reductions of 20-25% should be used for R-18 steel when drawing preheated wire while the corresponding figure for EI-474 steel is 25-30% as against 12-18% partial reductions used in cold drawing of these grades of steel. Overall reductions without using intermediate recrystallizations may reach 45-55% for R-18 and 65-70% for EI-474. Recrystallization is used after each draft in the cold drawing process. The average temperature of the wire before reaching the draw plate should be 375-285°C, the lead bath temperature being determined from experimental curves as a function of drawing rate and wire diameter. The optimum working angles of the draw plates for these grades of steel vary between 18 and 20°. The optimum lubricant is a mixture of graphite and soap in a ratio by volume of 7:1. The article was presented for publication by Academician A. I. Tselikov, Professor at the Moscow Technical College. Orig. art. has: 5 figures, 1 table.

SUB CODE: 13, 11/ SUBM DATE: 15Dec64/ ORIG REF: 04

Card 2/2

NIKITIN, G.V.

27704. O nesushchey sposobnosti tsentral'no I vnetsentrenno zhatyrh gibkikh zhelezobetonnykh sterzhney. Trudy iv vsesoyuz. konetsii po betonu i zhelezobeton. Konstruktsiyam. Ch. 2 M.-L., 1949 s. 59-66---

SO: Knizhnaya Letopis, Vol. 1, 1955

UGLOV, F.G., prof.; MAMEDOV, I.M.; MURSALOVA, R.A.; KRASNOSHCHEKOVA, L.I.;
BOKAREV, Yu.N.; NIKITIN, G.V.; RASSVETAYEV, I.L.; ZHELVAKOV, N.M.

Deep hypothermia in combination with artificial blood circulation in heart surgery. Vest.khir.90. no.2:19-29 F'63.
(MIRA 16:7)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - prof. F.G. Uglov) 1-go Leningradskogo meditsinskogo instituta imeni Pavlova.
(HYPOTHERMIA) (HEART—SURGERY)
(BLOOD—CIRCULATION, ARTIFICIAL)

NIKITIN, G.V.

Mechanized charging of cupolas. Lit.proizv. no.11:11-13 N '61.
(MIRA 14:10)

(Cupola furnaces--Equipment and supplies)

NIKITIN, G.V.

Wire-reinforced wooden boxes. Standartizatsiia 26 no.6:32-34 Je '62. (MIRA 15:7)

(Boxes)

SHKUL'TIN, Vasiliy Ivanovich, inzh.; SHER, Yuliya Mikhaylovna, kand. tekhn. nauk; GAZIYEV, Abdul Gafurovich, inzh.; BAMM, Aleksandr Isaakovich, inzh.; ~~NIKITIN, Grigoriy Vasil'yevich, inzh.~~; POTOLOKOV, Sergey Ivanovich, inzh.; DONNIKOVA, A.A., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Containers for shipment] Transportnaia tara. [By] V.I. Shkul'tin. i dr. Moskva, Goslesbumizdat, 1963. 436 p. (MIRA 16:11)

(Containers)

NIKITIN, G.Ye., inzhener.

Wording frozen ground with the use of an electric heating device. Gor.khoz.Mosk. 25 no.12:40-41 D '51. (MLRA 40-41)
(Frozen ground) (Building machinery)

NIKITIN, I.; SEDYKH, Ye., prepodavatel'

Let's improve the training of machine operators for forest industries. Prof.-tekh. obr. 20 no.8:27 Ag '63. (MIRA 16:9)

1. Zamestitel' direktora po uchebno-proizvodstvennoy rabote Khanty-Mansiyskogo uchilishcha mekhanizatsii sel'skogo khozyaystva No.8 Tyumenskoy oblasti (for Nikitin).

(Forest workers—Education and training)

ZHUKOV, D.V., kand. tekhn. nauk; GAVRILKINA, N.A., inzh.; NIKITIN, I.A., inzh.

Developing formulas and schedules for the heat treatment
of heat insulating slabs made of perlite. Sbor. trud.
ROSNIIMS no.25:141-149 '62 (MIRA 17:8)

NIKITIN, Il'ya Dmitriyevich; SELEZNEV, N.G., red.; PULIN, L.I., tekhn. red.

[Increasing the production of sugar beet seeds] Uvelichivaem proizvodstvo semian sakharnoi svekly. Tula, Tul'skoe knizhnoe izd-vo, 1960. 26 p. (MIRA 14:9)

1. Direktor sovkhoza "Stepnoy khutor" Yefremovskogo rayona Tul'skoy oblasti (for Nikitin).

(Yefremov District—Sugar beets)

NIKITIN, I. D.

"Some Features of Threating Zirconium and Its Alloys by Pressure, and the Effect of Various Conditions of Annealing on the Mechanical Properties of Zirconium", by I. D. Nikitin and V. A. Fedorchenko

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 1-13 Sept 1958.

NIKITIN, I.D.

21(4) PHASE I BOOK EXPLOITATION SOV/2714

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; yadernoye goryucheye i reaktornyye metally. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1959. 670 p. (Series: Its: Trudy, vol. 3. 8,000 copies printed.

Ed. (Title page): A.A. Bochvar, Academician, A.P. Vinogradov, Academician, V.S. Yemel'yanov, Corresponding Member, USSR Academy of Sciences, and A.P. Zefirov, Doctor of Technical Sciences; Ed. (Inside book): V.V. Parvvarnev and G.M. Pohelintseva; Tech. Ed.: N.I. Mazel'.

PURPOSE: This volume is intended for scientists, engineers, physicians, and biologists working in the production and peaceful application of atomic energy; for professors and students of schools of higher technical education where the subject is taught; and for people interested in atomic science and technology.

COVERAGE: This is volume 3 of a 6-volume set of reports on atomic energy, presented by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held in Geneva from September 1 to 13, 1958. Volume 3 consists of two parts. The first part, edited by A.I. Zubov, is devoted to geology, prospecting, concentration and processing of nuclear source material. The second part, edited by G.L. Zverev, includes 27 reports on metallurgy, metallography, processing technology of nuclear fuels and reactor metals, and neutron irradiation effects on metals. The titles of the individual papers in most cases correspond word for word with those in the official English language edition on the Conference proceedings. See SOV/2081 for the titles of the other volumes of the set.

Kiselev, A.A., I.D. Nikitin, I.I. Kornilov, Ye.A. Fedorchenko, D.D. Sokolov, and T.A. Mashnyalkova. Some Problems of Processing Zirconium and Its Alloys by Pressure (Report No. 2049) 425

Ivanov, O.S., and V.K. Grigorovich. Structure and Properties of Zirconium Alloys (Report No. 2046) 439

Yemel'yanov, V.S., Yu.G. Godin, and A.I. Yevstyukhin. Mechanical Properties of Zirconium Binary and Ternary Alloys With Tantalum and Niobium at Room and Elevated Temperatures (Report No. 2055) 462

Korobkov, I.I., A.V. Ignatov, A.I. Yevstyukhin, and V.S. Yemel'yanov. Electron Diffraction and Kinetic Investigations of the Oxidation Reactions of Zirconium and Some of Its Alloys (Report No. 2054) 474

Ambartsumyan, R.S., A.A. Kiselev, L.I. Tsuprun, R.V. Grebennikov, V.I. Kruglikov, and A.V. Nikulina. Mechanical Properties and Corrosion Resistance of Zirconium and Its Alloys in Water, Steam, and Gases at High Temperatures (Report No. 2044) 486

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78321
SOV/89-8-3-6/32

AUTHORS: Perlin, I. L., Nikitin, I. D., Fedorchenko, V. A., Nikulin, A. D., Reshetnikov, N. G.

TITLE: Some Force and Deformation Characteristics of Working Uranium by Forces of Pressure

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 3, pp 219-227 (USSR)

ABSTRACT: The choice of optimum thermomechanical conditions for working of uranium is complicated due to possibilities of allotropic transitions resulting in modifications having different plasticity and strength. Due to its high resistance to deformation and small heat capacity, uranium is often heated considerably during extrusion and rolling and changes from α into β phase. Deforming samples from 90 to 60 mm at 420° C by means of one stroke of a friction press, the temperature of the metal rises from 90 to 100° C. Strong oxidation also influences the temperature change in the metal during working. To enable the determination of conditions

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Some Force and Deformation Characteristics
of Working Uranium by Forces of Pressure

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for working of uranium by forces of pressure, the authors investigated the rolling, pressing, drawing, and die forging of uranium. Figure 1 shows the influence of the temperature on the maximum permissible reduction per pass of 15-mm-wide cast uranium samples. Uranium is exceptionally sensitive to nonuniform distributions of deformations during rolling. For example, fine uranium strips (0.05-0.20 mm) may be obtained without fracture; reduction per pass 80-85%. The augmented plasticity is explained as due to negligible nonuniformities in the distribution of deformation in the rolled strip. However, when rolling cold thin plates with variable rolling direction, the resulting nonuniformities in deformations cause fracture of the metal. Figure 2 shows the results of investigations of the variation with temperature of the mean specific pressure p_{cp} of the metal on the rollers. The temperature increase in the metal during rolling at $t = 630^{\circ}$ C causes a transition into

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Some Force and Deformation Characteristics of Working Uranium by Forces of Pressure

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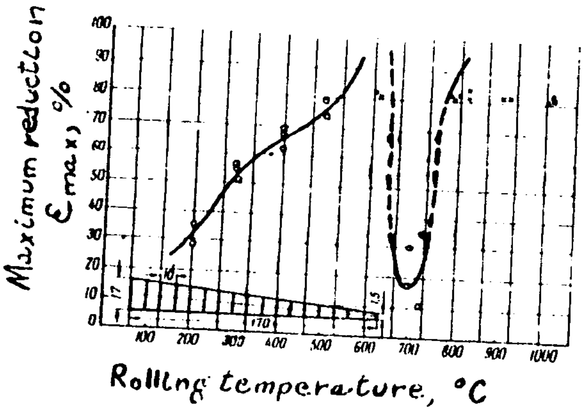

Fig. 1. Influence of temperature on rollability of uranium: (x) no fracture of samples was observed.

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Some Force and Deformation Characteristics

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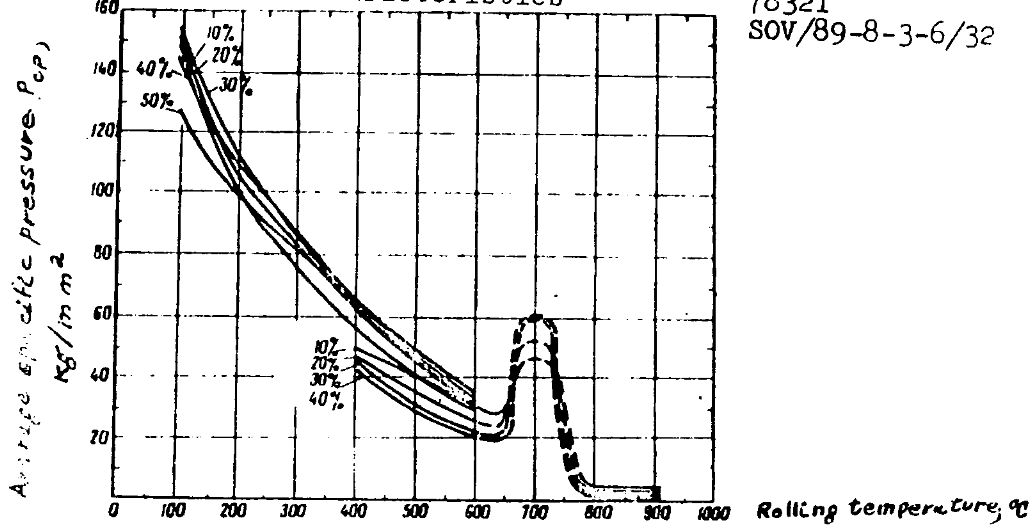

Fig. 2. Average specific pressure of metal on rollers versus the temperature: ———first series of tests; - - -second series of tests.

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the β phase which shows up as staggered oscillograms. The authors also investigated the mean specific pressure as function of the reduction at various temperatures and also as function of the initial state of uranium samples. They compared the results with the analytic equation A. I. Tselikov (Prokatnye stany (Rolling Mills) M., Metallurgizdat, 1947) and found a satisfactory agreement:

$$p_{cp} = k\frac{2(1-e)}{e(\delta-1)}\left(\frac{h_H}{H}\right)\left[\left(\frac{h_H}{H}\right)^{\delta}-1\right],$$

where $\varepsilon = (H - h)/H$ is reduction; h_H, height of strip in the neutral cross section; $\delta = \mu\sqrt{2D/\Delta h}$ (μ = coefficient of friction; D = diam of rollers) $k = 1.15\, n_y\, \sigma_s$ (n_y = coefficient of strengthening; σ_s = yield limit in case of large plastic deformations). The value of n_y is function of the reduction

Some Force and Deformation Characteristics
of Working Uranium by Forces of Pressure

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and temperature, and varies between 1 and 1.6. Figure 4 shows the absolute widening $\Delta b = B_1 - B$ of a square sample 21 x 21 x 180 mm with rollers 220 mm in diam as function of rolling temperature. The maximum of the curves is connected to the maximum of the friction coefficient which in the 900-950° C temperature region is equal to 0.4-0.45. The authors note that uranium can be extruded in the temperature interval between 250 and 1,000° C, and they discuss in detail the extrusion characteristics of γ- and α-uranium. They emphasize that during extrusion the uranium should not come in contact either with air or steel tools. Tools made from heat-resistant alloys, carbides, and ceramics with lubricants are used for extrusion of α-uranium. While extrusion velocities of γ-uranium are practically unrestricted, α-uranium is extruded using velocities between 1 and 400 mm/sec. The authors investigated further the extrusion stresses as function of extrusion ratio, temperature (see Fig. 6), and production mode of the sample. The extrusion stress depends linearly on

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Some S[illegible] and Deformation Characteristics of Working Uranium by Forces of Pressure

78321
SOV/89-[illegible]

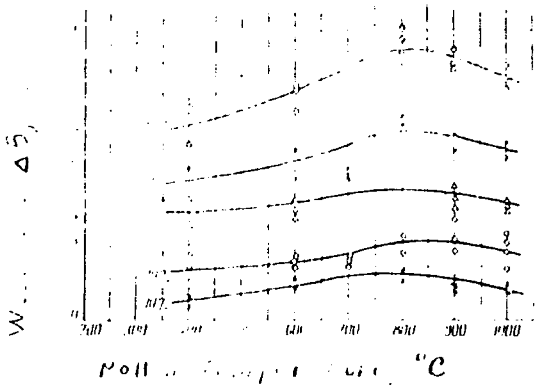

Fig. 4. Absolute widening of sample versus rolling temperature.

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Some Force and Deformation Characteristics
of Working Uranium by Forces of Pressure

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SOV/89-8-3-6/3

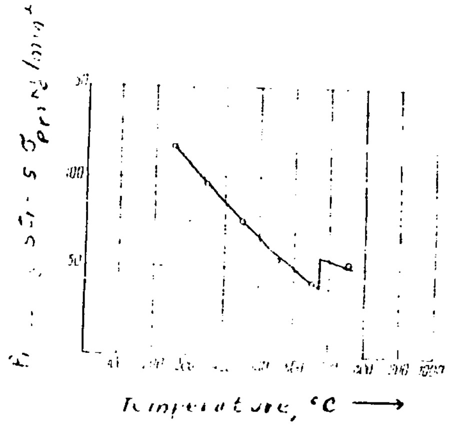

Fig. 6. Pressing stresses of uranium versus temperature.

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Some Force and Deformation Characteristics of Working Uranium by Forces of Pressure

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SOV/89-8-3-6/32

the integral index of the degree of deformation $i = \ln \mu$, and Figure 8 represents a nomogram whose cross-hatched region shows the influence of the scale-factor on the pressing stress when the ratio of the container diameters equals 5. The tests also showed that one can neglect the forces of contact friction. As seen from the nomogram, the lines pass through the coordinate origin, and therefore, the extrusion stresses σ_{pr} can be determined from the equation:

$$\sigma_{pr} = \frac{R_M + T_M}{F_n} = M_{pr} i.$$

In analogy with Young's modulus the authors call the coefficient M_{pr} the modulus of the extrusion stress. Figure 9 shows the variation of this modulus with temperature. Extrudability i_{pr} of the uranium metal, defined as:

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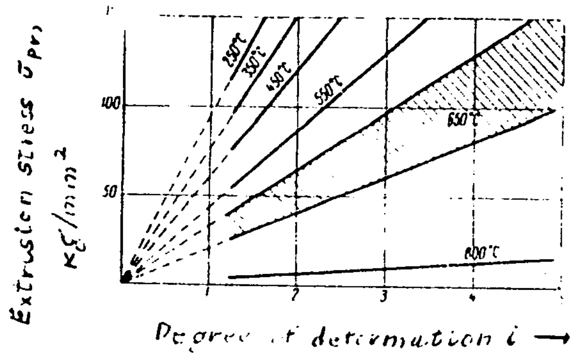

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Fig. 8. Nomogram for determination of extrusion stresses.

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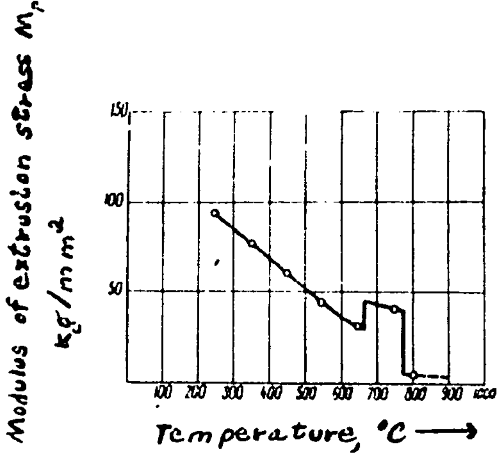

Fig. 9. Modulus of extrusion stress of uranium versus temperature.

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$$t_{pr} = \frac{\sigma_{pr}}{M_{pr}}.$$

is shown in Fig. 10, where the upper curve is the variation of the maximum extrudability under a pressure of 150 kg/mm^2, and the lower curve is obtained using σ_{pr} = 15 kg/mm^2. γ-Uranium has extrudability above 35. The authors discuss further the structure of the products and Table 2 exhibits the mechanical properties of the extruded uranium. The authors discuss various lubricants used during drawing, and present in Table 3 and on Fig. 11 some results concerning drawing of uranium. With heating one can obtain uranium wires 2 mm in diam and less. Modification of heating conditions allows the production of 0.1-mm uranium wires. Uranium can be die-forged in the α and γ temperature regions with ram velocities up to 6,000-7,000 mm/sec. Any transition into the β region due to overheating will cause

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Some Force and Deformation Characteristics of Working Uranium by Forces of Pressure

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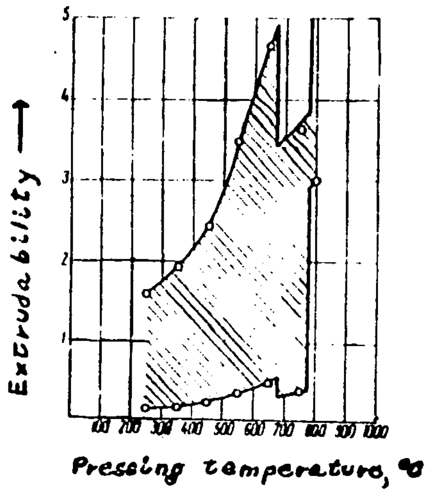

Fig. 10. Extrudability of uranium versus temperature.

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Table 2. Mechanical properties of extruded uranium. (a) Initial state of uranium; (b) tensile strength; (c) elongation; (d) reduction of area; (e) extruded at; (f) extruded in α -phase with subsequent hardening from β-phase.

a	b σ_b, kg/mm²	c δ, %	d ψ, %
e, 350° C . . .	143,0	9,2	8,9
e, 730—750° C .	61,3	9,2	4,1
e, 900° C . . .	80,9	7,6	4,0
f	75,0	7,0	6,6

Note: (1) Each figure represents the arithmetic mean value from three measurements. (2) Small Gagarin type samples were used during tests.

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Ta[illegible] [illegible] D[illegible] [illegible]ress versus drawing ratio. (a) Initial state of uranium bar; (b) initial diam; (c) final diam; (d) drawing ratio per pass; (e) pull[illegible] [illegible] of drawing; (f) drawing stress; (g) annealed; (h) preliminarily deformed.

a	b, $d_н$ (mm)	c, d (mm)	d, δ (%)	e, P_{dr} (kg)	f, σ_{dr} (kg/mm^2)
g . . .	11,45	10,7	12,7	1950	21,7
h . . .	10,3 9,5	9,8 8,5	10,0 20	1700 2650	22,5 47

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Some Force and Deformation Characteristics
of Working Uranium by Forces of Pressure

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SOV/89-8-3-6/32

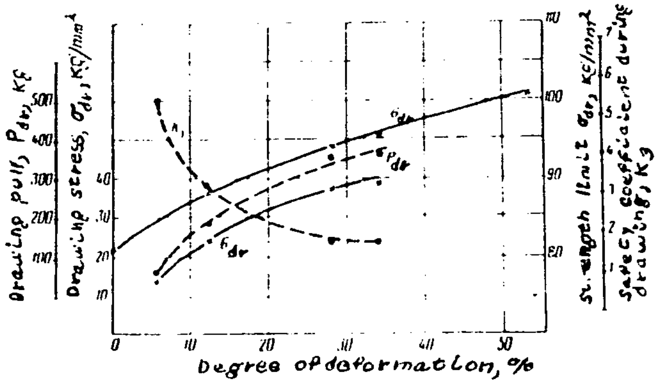

Fig. 11. Relationship between drawing parameters and drawing ratio per pass.

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Some [illegible] and Deformation Characteristics 78321
Working [illegible] by [illegible] SOV/89-8-3-6/[illegible]

crack formation. The authors also discuss briefly the conditions for flat die forging of C and γ uranium. There are 11 figures; 4 tables; and 5 Soviet references.

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NIKITIN, I.F.

BORUKAYEV, R.A.; BANDALETOV, S.M.; LYAPICHEV, G.F.; NIKITIN, I.F.

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(Kazakhstan--Geology, Stratigraphic) (Geology, Stratigraphic--Kazakhstan) (Tourmaline)

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[Brachiopoda of the Cambrian and Lower Ordovician in the northeastern part of central Kazakhstan] Brakhiopody kembriia i nizhnego ordovika sever-vostoka TSentral'nogo Kazakhstana. Alma-Ata, Izd-vo Akademii nauk Kazakhskoi SSR, 1956. 143 p. (MLRA 10:2)

1. Akademiya nauk Kazakhskoy SSR (for Borukayev)
(Kazakhstan--Brachiopoda, Fossil)

15-57-5-5758

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 5, p 8 (USSR)

AUTHOR: Nikitin, I. F.

TITLE: Brachiopods in the Yashmovaya and Tortkudukskaya Beds in Northeastern Central Kazakhstan (Cambrian and Lower Ordovician) [Brakhiopody yashmovoy i tortkudukskoy tolshch severo-vos^toka Tsentral'nogo Kazakhstana (kembriy i nizhniy ordovik)]

PERIODICAL: Izv. AN KazSSR, ser, geol. 1956, Nr 22, pp 99-111.

ABSTRACT: The author presents a stratigraphic summary derived from the study of brachiopods. The stratigraphic outline of the Cambrian and Lower Ordovician of R. A. Borukayev (Izv. AN Kaz SSR, ser. geol., 1953, Nr 17), the horizons distinguished by N. K. Ivshin (Izv. AN Kaz SSR, ser. geol., 1950, Nr 14; 1953, Nr 16), and the Middle Cambrian trilobites from Boshchekul' (Northeastern Kazakhstan, Izd. Kaz SSSR) are made the foundation for this work. The Agyrekskiy and Maydanskiy beds are placed in the Yashmovaya

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Brachiopods in the Yashmovaya and Tortkudukskaya Beds (Cont.)

formation (Cm_2); the Boshchekul'skiy and Alkamergenskiy beds are in the Sasykorskaya formation (Cm_2^2), and the Kuyandinskiy, Seletinskiy, Shidertinskiy, and Olentinskiy beds are in the Tortkudukskaya formation (Cm_3^2--O_1^1). Brachiopods studied from the Maydanskiye beds are Nisusia nasuta n. sp., N. nasuta ramosa n. sp. and n. var., Cambrotrophia mailanensis n. sp. Characteristic forms for the Kuyandinskiye beds are Billingsella borukaevi n. sp., B. coarta n. sp., B. gigantea Gortani, B. fluctuosa n. sp., B. fluctuosa insignis n. sp., and n. var., B. lingulaeformis seletensis n. sp. and n. var., B. pepina (Hall), B. shidertensis n. B. solidata n. sp., B. satpakensis n. sp. The Lermontovskiye beds contain Obolus sp., Lingulella cf. mosia (Hall), Billingsella aliena n. sp., Apheoorthis neglecta n. sp., Huennella biplicata n. sp. In the Olentinskiy beds are found Siphonotreta textilis n. sp., Apheoorthis ocha (Walcott), Nanorthis hamburgensis (Walcott), Palaeostrophia orthia (Walcott), Glyptotrophia? sp., Tetralobula latens n. sp., Clarkella nona (Walcott), C. supina n. sp., C. supina turgida n. sp. and n. var. The study of the systematic position and the stratigraphic value of the listed brachiopods leads to assigning the Maydanskiy beds to the lower Middle Cambrian, the Kuyandinskiye to the

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15-57-5-5758

Brachiopods in the Yashmovaya and Tortkudukskaya Beds (Cont.)

middle part of the Upper Cambrian, and the Olentinskiye to the lower part of the Lower Ordovician. These conclusions are in close agreement with the age assignments of the listed beds as made by N. K. Ivshin from his study of the trilobites.

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I. F. N.